

REMARKS

In reply to the Office Action of April 6, 2009, Applicants submit the following remarks. No claims have been amended, canceled, or added. Accordingly, claims 1-4, 6-15, 17-25, 27-28, 30-31, 33-49, 52, and 54-64 are pending, with claims 1, 13, 17, 52, and 64 in independent form.

Claims 1-4, 6-7, 9-10, 12, 15, 17-22, 27-28, 28-28, 30-31, 33-35, 38-40, 43-46, 49, 52, and 54-63 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Brunner et al. (U.S. Patent No. 6,645,783, "Brunner"). Applicants respectfully disagree, for at least the following reasons.

Independent claim 1 covers leadframes for radiation-emitting components. The leadframes include a mount part having "at least one external electrical connecting strip" and "an opening formed therein and extending completely through the mount part." The leadframes also include a thermal connecting part "disposed in said opening and fastened into said mount part to form an electrical connection with the at least one external electrical connecting strip," and "having at least one chip mounting area and a reflector well surrounding said chip mounting area." Brunner's components do not include the mount part and the thermal connecting part recited by claim 1.

The Action identifies heat sink 13 as Brunner's thermal connecting part (Action at page 2). With reference, for example, to Figure 1 of Brunner, heat sink 13 is positioned in an opening in base part 4. As best applicants can determine, the Action appears to suggest that the combination of base part 4 and electrode 2 forms the mount part recited by claim 1, which as described above required the mount part to have "at least one external electrical connecting strip". The Action further states that "the thermal connecting part 13 extends vertically through the opening in the mount part" (Action at page 3).

Applicants respectfully disagree. The combination of base part 4 and electrode 2 does not include "an opening formed therein and extending completely through the mount part" as required by claim 1. Instead, as shown in Brunner's Figure 1, heat sink 13 is positioned in base part 4 such that it *contacts* electrode 2, but *does not extend through* an opening in electrode 2 because there is no opening that extends completely through base part 4 and electrode 2. The

upper portion of electrode 2 *extends over* and caps the opening in base part 4 such that this opening *does not extend completely through* the combination of base part 4 and electrode 2. Accordingly, Applicants submit that Brunner does not disclose the mount part recited by claim 1.

Claim 1 also recites a thermal connecting part “having at least one chip mounting area and a reflector well surrounding said chip mounting area.” The Action identifies heat sink 13 as corresponding to the recited thermal connecting part (Action at page 2). But heat sink 13 does not include “at least one chip mounting area” as required by claim 1. As shown in Figure 1 of Brunner, semiconductor chip 1 is not mounted to heat sink 13. Instead, chip 1 is mounted on portion 5 of electrode 2 (e.g., chip 1 is mounted on the portion of Brunner’s component that corresponds most closely with the *mount part*, not the *thermal connecting part*). Accordingly, heat sink 13 does not include a “chip mounting area,” because no chips are mounted on the heat sink.

Moreover, claim 1 recites a thermal connecting part that includes “a reflector well surrounding said chip mounting area.” As best Applicants can determine, heat sink 13 – the portion of Brunner’s component that the Action identifies as the thermal connecting part – does not include such a well. Rather, the Action states that the “portion of electrode 2 formed on the wall and formed of copper, which is reflective ... can function as [a] ‘reflector well’” (Action at page 2).

Even if, for the sake of argument only, a portion of electrode 2 does form a reflector well (which Applicants do not concede), electrode 2 does not form a portion of the recited *thermal connecting part*. Instead, electrode 2 corresponds, as the Action has identified (see, e.g., Action at page 2), to the “at least one external electrical connecting strip” of the recited *mount part*. Heat sink 13 contacts electrode 2 “to form an electrical connection with the at least one external electrical connecting strip” as required by claim 1. Therefore, even if electrode 2 does form the reflector well recited in claim 1, Brunner’s components do not include a thermal connecting part having “a reflector well surrounding said chip mounting area” that claim 1 requires.

For all of the foregoing reasons, Applicants submit that claim 1 is patentable over Brunner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e).

Independent claim 17 covers housings for one or more light-emitting components. The housings include a leadframe that includes a mount part having “an opening formed therein and extending completely through the mount part” and “at least one external electrical connecting strip.” The leadframe also includes a thermal connecting part “disposed in said opening and fastened into said mount part to form an electrical connection with the at least one external electrical connecting strip, said thermal connecting part having at least one chip mounting area.” The housings covered by claim 17 also include a housing base body where “said leadframe is embedded in said base body to pass out said connecting strip from said base body.” Applicants submit that Brunner fails to disclose the mount part, the thermal connecting part, and the base body recited by claim 17.

As discussed above in connection with claim 1, Brunner's components do not include the mount part recited in claim 17, at least because the combination of base part 4 and electrode 2 does not include “an opening formed therein and extending completely through the mount part.” Instead, heat sink 13 is positioned in base part 4 such that it contacts, but does not extend through, electrode 2, because no opening exists in electrode 2. Electrode 2 extends over and closes the opening in base part 4. Thus, Brunner does not disclose a mount part having an opening “extending completely through the mount part” as claim 17 requires.

Further, Brunner's components do not include a thermal connecting part “having at least one chip mounting area” as claim 17 requires. In fact, in Brunner's components, chip 1 is not mounted to heat sink 13 at all. Instead, chip 1 is mounted to portion 5 of electrode 2. In other words, chip 1 is mounted to the portion of Brunner's components that corresponds to the mount part, not to the thermal connecting part. Brunner's thermal connecting part therefore does not include a chip mounting area as required by claim 17.

Claim 17 also requires a housing base body where “said leadframe is embedded in said base body to pass out said connecting strip from said base body.” The Action merely repeats this

limitation without indicating where in Brunner such a base body is found (Action at pages 3-4). Applicants submit that Brunner does not disclose such a base body. In particular, referring to Figure 1 of Brunner, electrodes 2 and 3 are coated on exterior surfaces of base part 4. Electrodes 2 and 3 are not "embedded in said base body to pass out said connecting strip from said base body." Applicants have reviewed Brunner, but have been unable to find any disclose in Brunner relating to electrodes that are embedded in base part 4. Accordingly, Applicants submit that Brunner fails to disclose the base body recited in claim 17.

For all of the foregoing reasons, Applicants submit that claim 17 is patentable over Brunner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 17 under 35 U.S.C. § 102(e).

Independent claim 52 covers leadframes for radiation-emitting components. The leadframes include a first electrically conductive component having a mounting region with an opening that "extends completely through the first component" and an electrical connecting strip, and a thermal connecting part that "extends through the opening in the mounting region" and "comprises at least one chip mounting area and a reflector well surrounding said chip mounting area." Applicants respectfully submit that Brunner does not disclose the first electrically conductive component nor the thermal connecting part recited by claim 52.

As discussed above in connection with claim 1, Brunner's components do not include the first electrically conductive component recited in claim 52, at least because the combination of base part 4 and electrode 2 does not include an opening that "extends completely through the first component." Instead, heat sink 13 is positioned in base part 4 such that it contacts, but does not extend through, electrode 2, because no opening in electrode 2 exists. Electrode 2 extends over and closes the opening in base part 4. Thus, Brunner does not disclose a first electrically conductive component having an opening that "extends completely through the first component" as claim 52 requires.

Further, Brunner's heat sink 13 does not include "at least one chip mounting area" and a "reflector well surrounding said chip mounting area." Brunner's chip 1 is not mounted to heat sink 13. Instead, chip 1 is mounted to portion 5 of electrode 2. In other words, Brunner's chip is

mounted to a part of his component that corresponds most closely with the first electrically conductive component, not with the thermal connecting part. Brunner's thermal connecting part (e.g., heat sink 13) does not include a chip mounting area.

Heat sink 13 also does not include the claimed reflector well. The action points to a portion of electrode 2 as forming the recited reflector well (Action at page 2). However, even if electrode 2 did form a reflector well (which Applicants do not concede), the resulting well would be part of the first electrically conductive component, not part of heat sink 13. Accordingly, Applicants submit that Brunner fails to disclose a thermal connecting part with either a chip mounting area or a reflector well, as recited by claim 52.

For all of the foregoing reasons, Applicants submit that claim 52 is patentable over Brunner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 52 under 35 U.S.C. § 102(e).

Each of claims 2-4, 6-7, 9-10, 12, 15, 18-22, 27-28, 30-31, 33-35, 38-40, 43-46, 49, and 54-63 depends from one of claims 1, 17, and 52, and is therefore patentable over Brunner for at least the same reasons. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 2-4, 6-7, 9-10, 12, 15, 18-22, 27-28, 30-31, 33-35, 38-40, 43-46, 49, and 54-63 under 35 U.S.C. § 102(e).

Claims 8, 23-25, 36-37, and 64 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brunner. Without addressing or conceding the Action's statements regarding the additional limitations of dependent claims 8, 23-25, and 36-37, Applicants note that each of these claims depends from one of independent claims 1 and 17. As discussed above, each of claims 1 and 17 is patentable over Brunner. For at least the same reasons, each of claims 8, 23-25, and 36-37 is also therefore patentable over Brunner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 8, 23-25, and 36-37 under 35 U.S.C. § 103(a).

Regarding independent claim 64, Applicants do not concede the Action's allegations regarding the recited volume (see Action at page 6). Without addressing this limitation, however, Applicants note that claim 64 covers radiation-emitting components that include a

leadframe with a mount part having “an opening formed therein and extending completely through the mount part” and “at least one external electrical connecting strip.” The leadframe also includes a thermal connecting part “having at least one chip mounting area,” where the thermal connecting part “extends through the opening in the mount part.” Brunner does not disclose the mount part and the thermal connecting part recited by claim 64.

As discussed above in connection with claim 1, Brunner's components do not include the mount part recited in claim 64, at least because the combination of base part 4 and electrode 2 does not include “an opening formed therein and extending completely through the mount part.” Instead, heat sink 13 is positioned in base part 4 such that it contacts, but does not extend through, electrode 2, because no opening exists in electrode 2. Electrode 2 extends over and closes the opening in base part 4. Thus, Brunner does not disclose a mount part having an opening “extending completely through the mount part” as claim 64 requires.

Further, Brunner's components do not include a thermal connecting part “having at least one chip mounting area” as claim 64 requires. In fact, in Brunner's components, chip 1 is not mounted to heat sink 13 at all. Instead, chip 1 is mounted to portion 5 of electrode 2. In other words, chip 1 is mounted to the portion of Brunner's components that corresponds to the mount part, not to the thermal connecting part. Brunner's thermal connecting part therefore does not include a chip mounting area as required by claim 64.

For all of the foregoing reasons, Applicants submit that claim 64 is patentable over Brunner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 64 under 35 U.S.C. § 103(a).

Claims 41, 42, 47, and 48 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brunner in view of Kumamoto et al. (U.S. Patent No. 6,129,993, “Kumamoto”). Without addressing or conceding the merits of the proposed combination of Brunner and Kumamoto, Applicants note that claims 41, 42, 47, and 48 each depend from claim 1. As explained above, claim 1 is patentable over Brunner. Kumamoto does not cure the deficiencies of Brunner with respect to claim 1, at least because Kumamoto does not disclose or

suggest the mount part or the thermal connecting part recited in claim 1. Accordingly, claim 1 is patentable over Brunner and Kumamoto alone or in combination.

For at least the same reasons, each of claims 41, 42, 47, and 48 is also therefore patentable over Brunner and Kumamoto. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 41, 42, 47, and 48 under 35 U.S.C. § 103(a).

Claims 13-14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brunner in view of Mamoru (JP-58218153, "Mamoru"). Independent claim 13 covers leadframes for radiation-emitting components, and recites a mount part having "an opening formed therein and extending completely through the mount part," and a thermal connecting part "having at least one chip mounting area." As discussed above in connection with claim 1, Brunner does not disclose such a mount part, at least because the combination of base part 4 and electrode 2 does not include "an opening formed therein and extending completely through the mount part." Instead, heat sink 13 is positioned in base part 4 such that it contacts, but does not extend through, electrode 2, because no opening exists in electrode 2. Electrode 2 extends over and closes the opening in base part 4. Thus, Brunner does not disclose a mount part having an opening "extending completely through the mount part" as claim 13 requires.

Further, Brunner's components do not include a thermal connecting part "having at least one chip mounting area" as claim 13 requires. In fact, in Brunner's components, chip 1 is not mounted to heat sink 13 at all. Instead, chip 1 is mounted to portion 5 of electrode 2. In other words, chip 1 is mounted to the portion of Brunner's components that corresponds to the mount part, not to the thermal connecting part. Brunner's thermal connecting part therefore does not include a chip mounting area as required by claim 13.

Mamoru does not cure the deficiencies of Brunner, at least because Mamoru does not disclose or suggest the mount part and the thermal connecting part recited by claim 13. Accordingly, Applicants submit that claim 13 is patentable over Brunner and Mamoru, alone or in combination, and respectfully request reconsideration and withdrawal of the rejection of claim 13 under 35 U.S.C. § 103(a).

Claim 14 depends from claim 13, and is therefore patentable over Brunner and Mamoru for at least the same reasons. Applicants also therefore respectfully request reconsideration and withdrawal of the rejection of claim 14 under 35 U.S.C. § 103(a).

Claims 17-19 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lee et al. (U.S. Patent No. 6,516,516, "Lee") in view of Carey et al. (U.S. Patent No. 6,274,924, "Carey"). Applicants respectfully disagree, for at least the following reasons.

Independent claim 17 requires that the thermal connecting part is "fastened into said mount part to form an electrical connection with the at least one external electrical connecting strip." In contrast, in Lee's chip package, there is no electrical connection between heat spread 26 and lead frame 10. For example, referring to Figure 3 in Lee, heat spread 26 is not electrically connected to inner leads 11 or outleads 12 of leadframe 10. Accordingly, Lee's heat spread 26 is not fastened into a mount part to form an electrical connection with an external electrical connecting strip, as claim 17 requires.

Moreover, Carey does not cure Lee's deficiencies regarding claim 17. A person of ordinary skill in the art would have found no reason to modify Lee's device to include such a connection between heat spread 26 and lead frame 10. If heat spread 26 was connected to lead frame 10 in Lee's device, it is conceivable that an electrical short circuit would be created, rendering the device inoperative. Accordingly, a person of ordinary skill in the art would have had no reason to modify Lee's chip package to include such a connection.

For at least the foregoing reasons, claim 17 is patentable over Lee and Carey, and Applicants respectfully request reconsideration and withdrawal of the rejection of claim 17 under 35 U.S.C. § 103(a).

Claims 18 and 19 depend from claim 17, and are therefore patentable over Lee and Carey for at least the same reasons. Applicants also therefore respectfully request reconsideration and withdrawal of the rejections of claims 18 and 19 under 35 U.S.C. § 103(a).

In view of the foregoing, Applicants ask that the application be allowed.

Canceled claims, if any, have been canceled without prejudice or disclaimer. Any circumstance in which Applicants have: (a) addressed certain comments of the Examiner does

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not mean that Applicants concede other comments of the Examiner; (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims; or (c) amended or canceled a claim does not mean that Applicants concede any of the Examiner's positions with respect to that claim or other claims.

No fees are believed to be due. Please apply any charges or credits to Deposit Account 06-1050, referencing Attorney Docket No. 12406-0127001.

Respectfully submitted,

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